

REVIEWS.

ART. XVII.—*The Transactions of the American Medical Association, Instituted 1847.* Vol. X. 8vo., pp. 676: Philadelphia, 1857.

THE complaint has been made in certain quarters that the later volumes of the printed *Transactions* of our National Association exhibit a sensible deterioration when compared with the earlier ones; that the professional reports and other papers contained in them are inferior in value, and drawn up with less care and ability than those embraced in the preceding volumes. We cannot indorse the correctness of this complaint. That all the papers printed by the Association are not of equal interest or importance; that even the omission of a few would have in no degree impaired the value of its published *Transactions*, we feel no disposition to deny; we nevertheless contend that, taken as a whole, the ten volumes that have been issued present a series of able and instructive papers and reports, which cannot fail to benefit whoever will carefully study them, or apply the materials they offer to the correction and completion of his own observations and investigations. In the calling forth of these papers and reports, and their wide dissemination among the members of the American medical profession, the Association has accomplished, to a certain extent, one of the leading objects of its institution.

Different physicians will, of course, entertain very dissimilar opinions as to the value of medical publications. With the so-called "practical" members of the profession, no publication, however erudite, however truthful and important its doctrinal conclusions, will be esteemed truly valuable that does not present definite formulæ for the treatment of the prevailing diseases in their respective localities. They turn aside with no little scorn from all publications that aim only to establish broad general principles in pathology or therapeutics, or which simply profess to communicate some of the materials to be applied hereafter to the formation of correct theories of the nature, character, and treatment of disease. They feel greatly surprised and annoyed at the high estimate placed by others upon mere theoretical, or, as they would denominate them, speculative treatises. We are fully persuaded that it is by encouraging the preparation of the very class of papers which would be condemned by the class of physicians referred to, and placing them before the profession in a form accessible to all its members, the Association will do the most good, so far, at least, as respects one of its leading objects—the increase of medical knowledge in our midst.

The volume embracing the *Transactions* of the Association at its tenth annual session, held May, 1857, at Nashville, Tenn., opens, after disposing of the minutes of the session, with the address of the President, Dr. Zina Pitcher.

This is a most pleasing discourse, enforcing with due zeal and energy the true relationship of medicine, as a science and an art, to the civil institutions of the country, and the social condition of the people; pointing out the state of the profession in the United States, the causes that have tended to its depres-

sion, and the means best adapted to elevate it again to its legitimate standard as an instrument of the greatest good to the greatest number. These interesting points are rapidly but ably sketched, and the inherent nobility of our profession, with its capacity, by a proper course of action among its members, to vindicate its character openly and triumphantly, and to sustain its claims upon the government, and upon society at large, as a beneficent institution, essential alike to the first in the fulfilment of its legitimate objects, and to the last for the security of the best interests of the citizen, whether in his individual capacity or in his relation to others and to all.

The first of the regular reports in the present volume is on the Medical Topography and Epidemics of Maryland. It is a well drawn up and judiciously arranged document, comprising some valuable materials for the elucidation of the etiology and treatment of the leading diseases of the State.

We cannot agree with Dr. White, one of the contributors to this report, in the remarks he makes when speaking of the diseases of Carroll, Hartford, and Baltimore Counties, that,

"From observations made on the frequency of the occurrence of consumption in high and low districts of country, he has concluded that there are one-third more in the former than in the latter; and he thinks that many persons in whom the predisposition to the disease is very strong, might altogether escape by removing to a malarial district before any of the physical signs of phthisis are manifest."

It would carry us too far were we to attempt to adduce the large mass of conclusive evidence in refutation of the very erroneous supposition that low malarial regions of country are more exempt from pulmonary tuberculosis than are healthy and dry upland situations. To recommend the removal of those predisposed to consumption to flat, marshy districts, where periodical fevers prevail, under the supposition that there is anything prophylactic of tubercular disease of the lungs in the air of such localities, is a gross and pernicious error; it was, it is true, at one period a prevalent notion with certain English physicians that a residence in fever and ague districts was adapted to benefit the consumptive; but more accurate statistics have shown that consumption is as prevalent in these districts, if not more so, than in districts where periodical fevers are unknown; a fact now very generally admitted by the most authoritative writers on tuberculosis.

Although not next in order, the report of Dr. John F. Posey, on the Topography and Epidemics of Georgia, may as well be noticed here.

The sketch presented by Dr. Posey of the medical topography of the State is a very excellent and satisfactory one. In its topographical survey, the State is divided into three sections. The first and largest extending from the sea-coast and Florida line on the south, to the head of navigation of the larger rivers. The second, separated from the first by a line beginning at Augusta, at the head of navigation of the Savannah River, and running nearly W. S. W., by Milledgeville and Macon, to Columbus, at the head of navigation of the Chattahoochee, and bounded on the N. W. by a line drawn from the N. E. corner of the State, and running nearly S. W. till it reaches the west boundary line of the State, about half way between Columbus and Nicajack, on the Tennessee River. The third, and much the smallest, occupying all the space lying N. W. of the last mentioned line.

The first division, geologically considered, is of tertiary formation, varying in height and quality of alluvium according to the distance from the sea-coast. It is mostly wet and swampy. The geological formation of the second divi-

sion is primitive. The surface of the country is more hilly, and the streams are mostly confined between high banks, without any marginal marshes, and with rocky beds, over which the current is generally very rapid. The third division comprises the limestone region of upper Georgia. The face of the country presents a succession of broad, rich, fertile valleys, separated by intervening ridges from one to several miles across, of various degrees of elevation, rising in some instances to the magnitude of mountains, covered originally by dense forests, which are now rapidly disappearing. The valleys are all well watered.

A very rapid enumeration is given of the diseases prevalent in each of the foregoing divisions. In the first, malarial fevers prevail; the eastern portion, however, is exempt from the occurrence of any malignant and fatal epidemics. The other diseases met with in this region are catarrh, pleurisy, and pneumonia. In the winter and spring, epidemic pneumonia of a typhoid type is not unfrequent. Further inland, during seasons prolific in fruit, dysentery is liable to prevail.

In Savannah, the yellow fever was but little known until after the war of 1812.

"It was not until the winter of 1816 that foreign shipping began to resort to Savannah, and the next summer the harbour was crowded. No care was taken to time the arrivals to the healthy months, and the seamen were strangers entirely unacclimated. In the month of August, the yellow fever first broke out. It was confined to the seamen, and continued until the shipping departed; there were not many cases. During the following year, 1818, there were few arrivals, and all had left port before the summer had set in, and there was but little sickness.

"In the beginning of the year 1820, a great part of the city was burned down, and the population was consequently crowded into the narrow limits left by the fire. The ruins were, for the most part, left in a state of total neglect, and many of the uncovered sinks and vaults remained open, exposed to the weather, until they were filled up by the sand washed into them by the rain, which was more than usually copious in the latter part of the season. The excavations made for the foundations of new buildings were highly offensive, particularly during the night. In the latter part of the summer, the yellow fever began, and increased to a frightful extent, but its ravages were still mostly among the unacclimated, few natives or old residents dying. The disease continued until late in the winter.

"In 1821, the yellow fever began as in the year before, and now attacked the natives and old residents, more of whom died than did the year before."

The city was now thoroughly cleansed, and the yellow fever disappeared, and for five years remained absent from Savannah. Sanitary measures were soon, however, neglected, and the city became again abandoned to filth. In 1827, the yellow fever once more made its appearance, and carried off several of the most prominent citizens, all old residents, in rapid succession. The neglected sanitary measures were now resumed, and the city subjected to a process of thorough purification. The yellow fever did not again recur until 1854, when the city being crowded with foreigners, mostly Irish labourers, it was attended by an extent of mortality that excited general consternation. But few of the acclimated were severely attacked. The epidemic this year spread more widely through the State than it had previously.

Cholera was epidemic in 1834. In other portions of the State, typhoid fever, whooping-cough, mumps, varicella, scarlatina, measles, erysipelas, rheumatism, and dysentery, are enumerated as among the prevailing diseases.

The volume contains also a report on the Medical Topography and Fauna

of Washington Territory, by George Suckley, M. D., U. S. A., and one on the Medical Flora of the same territory, from the pen of Dr. J. G. Cooper. Both reports are replete with interest.

In regard to the diseases of Washington Territory, Dr. Suckley remarks—

"The settlers are generally healthy, and, in some cases, their constitutions seem strengthened by their change of location. In almost every case of acute disease, venesection is advantageous, and remarkably prompt in its good effects, showing a great contrast to the condition of affairs in some of the worn-out, over-populated places in the Atlantic States. The country is pre-eminently healthy, in support of which is the fact that during nearly three years' practice as medical officer at military posts on Puget Sound, and at Fort Dallas, I never lost a single soldier by disease, although the garrison's forces ranged from sixty to three hundred men during the time. In fact, I believe that my experience coincides with that of almost every medical officer who has been stationed in the country. The most prevalent diseases in the western section are rheumatism in their origin. Many persons who have previously lived in warmer dry climates are very subject to acute and chronic rheumatism after coming to this part of the territory. This is readily accounted for by the humidity of the climate, especially in winter, which here assumes the character of a 'rainy season.'"

For the especial benefit of such as still look upon the life of the savage as the one most friendly to health and longevity, and whose grand prophylaxis of disease is a system of hardening, poor diet, and exposure—as near an approach to savage life as can be attained in the midst of a civilized community, we extract from the report of Dr. Suckley the following paragraphs.

"Throughout the country, phthisis pulmonalis appears to be the most common non-specific disease with the aborigines. Irregular habits, exposure occasionally to famine and to cold, especially while sleeping, seem to be the principal causes of this in the far interior and in the mountains. This, I think, is aggravated by the general habit of smoking the dried leaves of the *arbutus uva ursi*—smoking it by *inhalation*, in the Indian fashion.

"On the coast, and in the settled districts, although hardships and scarcity of food do not exist in any proportion to what is encountered in the interior, yet the same disease is even more common, the unfortunate result of the bad habits, &c., attendant upon their intercourse with the whites."

Having thus briefly noticed the reports on medical topography and epidemics, we turn back to the report of Dr. D. M. Reese, of New York, on the subject of "Infant Mortality in Large Cities—the Sources of its Increase, and the Means for its Diminution"—a subject of deep interest to every one, whether considered simply as a medical question, or in its immediate bearing upon a most important branch of civic hygiene.

A residence in large and populous cities has ever been esteemed inimical to health, especially during infancy and childhood. Wallis, whose treatise on diseases was published first in 1710, styles cities "the graves of infants."

"For here," he remarks, "there die, upon an average, five times the number of quite young children that do in the country; and in the purlieus of vast metropolises, where dwell the poor and the improvident, the proportion of deaths that happen among infants, compared with what occur amid any rural population of equal numbers, is, perhaps, even much greater."

It is very certain that the value of life is vastly diminished, and the chance of surviving the first few days, or months, or years, of existence, rendered extremely problematical, wherever large masses of people are crowded together within comparatively narrow limits—living continually immersed in their own exuvæ, and breathing over and over again the same polluted atmosphere; as

was formerly the case when cities were laid out with little attention to sanitary rules, and when these same rules were equally disregarded in the construction of the dwellings, in the domestic economy, the food, habits, and clothing, of all classes of the citizens. Of late years, it is true, cities have, in most of these things, changed for the better, and their mortality, generally speaking, has in consequence become greatly diminished. There is still, however, much in the sanitary condition of our best laid-out, and most wisely policed cities, as well as in everything appertaining to civic residences, civic life, and civic institutions, that calls loudly for improvement.

In respect to the leading cities of the United States, in their freedom from disease, and the medium duration of their lives, the adult population will very generally bear a favourable comparison with the same population in the most healthy of our rural districts, the comparison, in these respects, being often rather in favour of the first. But so far as regards the infant portion of the populations of our larger Atlantic and Southwestern States, the annual destruction of life to which it is subjected is most fearful, exceeding greatly that which occurs in even the most insalubrious of the cities of Europe, and, so far as we may be permitted to infer from reliable data within our reach, it is every year on the increase.

From what does this result? Are the causes of the appalling infant mortality of our larger cities discoverable? Must they be set down as inevitable, or are they of a nature capable of being controlled, mitigated, or entirely removed? These are important questions that demand our serious consideration. The entire subject, indeed, presses itself most forcibly upon the attention equally of the physician and the philanthropist. No one can turn with indifference from the startling fact revealed by the bills of mortality of our principal cities, that of the whole number of deaths which annually occur there, one-half are of infants before they have attained their fifth year.

This immense destruction of infantile life has been attempted to be accounted for upon the supposition of a natural law, in obedience to which a certain number of deaths must take place at each stage of existence, in order that the entire population of any given locality may be kept within its proper, definitely prescribed limits, and the individuals composing it made to bear, as regards age and sex, a certain relationship to each other, and to the whole mass. Although there are valid reasons for believing that there is a natural law, so regulating the births and deaths of each community, as to preserve in it a definite relationship between the ages and sex of its members, we must nevertheless reject it as explanatory of the question before us—the cause, namely, of the immense waste of life, during infancy, in our large cities, and our power to discover, modify, or remove it.

The investigation of this question is the subject of the report before us. It is entered upon by Dr. Reese in the right spirit, and he has, with great clearness and accuracy, developed the more prominent of the propositions which bear directly upon it, and by following out which we can alone expect to arrive at any satisfactory solution of it.

In many of the cities of the United States most noted for the amount of infantile mortality (as shown by their bills of mortality), there is one thing to be taken into account which we believe has, independent of the accidental sanitary condition of these cities—throughout, or in part—a very decided influence in producing the predominance of deaths that occurs in the youngest members of their populations. The circumstance alluded to is the intense cold of the winter months, and the almost tropical temperature of their summers. This climatic peculiarity alone renders both the winter and summer

peculiarly inimical to life in early infancy, especially among the poor and improvident classes, who inhabit localities and dwellings that are crowded, ill-ventilated, damp, and uncleanly—localities and dwellings that are at all times eminently unhealthy, but especially so during the excessive heats of summer, and in the depth of winter, when, however carefully the houses are closed from the outer air, the atmosphere within them is not only stagnant and mephitic, but uncomfortably chilly.

In Philadelphia, the largest number of deaths in infants under five years of age, takes place during the months of June, July, August, and September, which is the season of greatest heat, the mean range of the thermometer being from 70° to 79°. The next highest amount of mortality at the same age, occurs during the months of December, January, February, and March, which is the season of greatest cold, the mean range of the thermometer being from 30° to 35°. The smallest number of deaths in those under five years of age, happens during the months of April, May, October, and November, when the mean range of the thermometer is from 50° to 65°. Thus, during a period of eight consecutive years, when the city remained free from any epidemic visitation, the entire number of deaths in patients under five years, during the four hottest months of the year, was 8,781; during the four coldest months, 5,641; and during the four temperate months, 4,815.

In the report before us, Dr. Reese, glancing at the shamefully high figure that, in nearly all the bills of mortality of our large cities, is set opposite to the item of stillborn and premature births, remarks very correctly:—

“It will be perceived that these ‘stillborn and premature birth’ interments number equal to *one-fifth* of the entire infant mortality of the last half century, and hence ought not to be overlooked in any estimate made upon this subject. Apart, however, from their numbers, they must be included for another and a weightier reason, since the causes of mortality among children of tender age are, in a multitude of cases, to be found only by extending our inquiries to their *intra-uterine* life, and the physiological state of the parents, but especially the sanitary condition of the mothers, their hygienic and moral habits and circumstances. Nothing can be more certain than that the viability of the infant after birth, and its tenacity of life, depend very greatly upon the condition, circumstances, habits, and health, of the parents, particularly those of the mothers, during every period of pregnancy; and hence, pathological and demoralizing agencies, operating upon parents in reproduction, and during utero-gestation, are often the sources of ‘premature birth and stillborn’ cases, but not less the cause of early death in their offspring after birth, and resulting in a vast proportion of the infant mortality so sadly and so universally deplored. These considerations may suffice to justify our plea for including the stillborn interments among the victims of infant mortality.”

By a table given in the report, exhibiting the mortality of the city of New York for fifty years, ending January, 1854, it is shown that the mortality among infants under one year old greatly exceeds that occurring between one and five years of age; while the mortality under two years is nearly four times that between two and five years. Moreover, the number of children who die under five years of age is greater than the whole mortality between five and sixty years of age! Hence the perils of life during the five years of infancy are greater than during the fifty-five years subsequent to that age.

“The dangers to life attendant upon early infancy, and especially during the first year, are,” Dr. Reese remarks, “well understood by the profession and the public. These arise from a variety of causes, viz:—

“1. Defective vitality at birth, hereditarily transmitted from one or both parents, whereby the infant is not viable, and perishes from inanition, nutrition

and development being physically impossible. These are reported in the bills of interments as cases of marasmus, tubercles mesenterica, consumption, &c.

"2. Mismanagement of infancy by parents, nurses, or doctors, in feeding and physicking the newly born, depriving them of the nutriment simultaneously flowing into the mother's breast, as Nature's only and all-sufficient supply for nutrition and development, and substituting therefor the thousand slops, teas, and drugs, which officious grannies of both genders are wont to prepare and administer." "Thousands thus perish in early infancy, their deaths being ascribed to colic, diarrhoea, dysentery, or convulsions, though oftener produced by drugging for the relief of symptoms which the mother's earliest milk would have prevented or cured, life being sacrificed by soothing syrup, Godfrey's cordial, Jayne's carminative, or some other vile mixture of molasses and water, with opium and brandy—nostrums more deadly poisonous to budding life than all the diseases of infantile existence."

"3. The ratio of infant mortality in large cities is conceded to be much greater than in country towns or rural districts, and for the reason that, in the former, so large a proportion of the births take place in the abodes of the indigent, which, if not in garrets or cellars, or shanties, are sadly deficient in the supply of light, pure air, free ventilation, cleanliness, clothing, fuel, and wholesome food, so necessary to the health, comfort, and safety of the mothers not less than their offspring, whose vitality is henceforth to be derived from the maternal bosom, in the milk, whose quality depends on the blood which circulates in her veins. Multitudes of infants born under these adverse circumstances of atmospheric contamination, perish in a few weeks or months for lack of pure air; and instead of marvelling at the extent and increase of fatality among such, we might rather wonder that any survive.

"How much of the infant mortality in large cities, and its alarming increase, is the legitimate result of quackery in some one of its varied forms, to which sick children are subjected, may be difficult even to conjecture." "Every phase of quackery is characterized by an overweening faith in drugs, and a delusive confidence in specifics, inspired by the brazen effrontery of the charlatans who 'by this craft have their gains,' and who employ themselves in encouraging the people to become, with the aid of their new system of drugging, 'every one his own doctor.'" "The popular mind is indoctrinated by these quacks into the belief that, in all ordinary diseases, they may confide in these specifics, especially for *infantile diseases*. And that thousands are annually added to our infant mortality by diseases entirely within the control of the healing art, the early periods of curability being lost in these experiments of ignorance by credulous parents and pretended physicians, is notorious in every city. So true it is, in this connection, that 'for want of *timely* aid, millions have died of medicable wounds; nor is it less true, that by injudicious and misguided interference with drugs, by the ignorance of mothers, nurses, and doctors, our infant mortality is immeasurably augmented."

Dr. Reese concludes his general summary of the causes of infant mortality, by alluding to that very fruitful source of disease and death, in early life, among the offspring of the depraved and vicious families that abound in large cities—the transmission, namely, of

"the hereditary poisons of either scrofulous, scorbutic, or syphilitic disease, from one or both parents to their offspring, whereby their young blood is fatally tainted with constitutional maladies, extending to the second and even the third generation." "That multitudes of children thus perish early from diseases which descend from their parents, constituting a fatal inheritance of poisoned blood, is a fact as demonstrable as any other in human pathology. Hence it cannot be overlooked in any inquiry after the sources of the extent and increase of infantile mortality in large cities."

To remedy the evils set forth, to remove some, at least, of the causes which, in our cities, consign such multitudes of the young to a premature grave, and thus enhance the value of life, from the cradle upwards, Dr. Reese offers the

following suggestions: 1st. The enactment and enforcement of stringent laws for the regulation of marriages, prohibiting alliances with individuals of either sex who are the subjects of either of those diseases which are known to be hereditary or transmissible to offspring, or such as are fatal to infantile existence. 2d. To remove the temptations to the crime of abortionism, and to prevent the abandonment or murder of new-born infants, by the vicious and depraved, the establishment by the State of foundling hospitals in all our large cities, and of lying-in asylums, for expectant mothers, married or unmarried, in which they may be comfortably attended in the hour of their need, or, if they have sinned, conceal their shame, and then "go and sin no more." 3d. The erection of suitable residences for the deserving poor, in accordance with the laws of health and life, and the establishment, in every community, of a proper sanitary police, whose duty it shall be to enforce obedience to these laws. No medical treatment is adequate to arrest diseases, or diminish their fatality, while their victims are found in the squalid and filthy abodes of the indigent, from which pure air, and often the light of heaven, are excluded, as among the wretched multitudes of our "cellar population," who furnish annually so large a share of our infant mortality. 4th. The erection and endowment of hospitals for sick children, in healthy localities in the immediate vicinity of all large cities, where the children of the poor, when attacked by disease, may be removed from out the fatal atmosphere of their homes, by which their malady has been engendered, and amid which their recovery is scarcely possible. "As each of such habitations becomes, for lack of air, ventilation, and cleanliness, a centre of disease among its inmates, so, also, is it," says Dr. R., with great truth, "a nucleus, whence its atmospheric poison radiates through the neighbourhood, infecting, by a physical necessity, the whole vicinity. It is thus that endemics become epidemics, and a filthy tenant-house is the source of pestilence, infecting the section in which it is located, and often sweeping over a wide space, or including a city in its ravages." Children's hospitals for the reception of the squalid offspring of the indigent, hence become important not simply from considerations of humanity, but as a means of ministering to public economy and public safety. 5th. The nursing of their infants by all healthy mothers until the first dentition is well advanced—bringing up by the hand, as it is termed, being always hazardous and generally fatal, especially when we reflect upon the adulterated or poisonous character of the milk with which our cities are supplied, and the unwholesome character of much of the other nutriment with which infants deprived of their mother's breast are so generally attempted to be fed. It is possible, all must admit, to supply to a certain extent the loss of the mother's breast by that of a suitable wet nurse; to procure such a one, however, who, to her other qualifications, adds faithfulness and honesty in their fulfilment, is attended, in most cases, with insuperable difficulties.

In conclusion, Dr. Reese remarks:—

"Let it not be supposed that the extent and increase of infant mortality is exclusively among children of the poor. The contrary must be familiar to us all, and statistics could readily be cited, which would render it apparent that in the better circumstanced, and even among the wealthier classes of our cities, the instances are rare in which the most favoured families succeed in preserving a moiety of their children through the perils of infancy. How much of the mortality in such is to be ascribed to the luxuriant and effeminate modes of life into which mothers, or those about to become mothers, are betrayed by the fashionable follies of the times, it might be difficult to compute, and as difficult to overestimate. And that much, very much, of serious and even

fatal infantile disease is the direct result of the indiscretions of nursing mothers whereby the quality and quantity of their milk are deteriorated, and the health of their children overthrown, professional testimony might be cited in abundance. Errors in diet; late hours; crowded assemblies; the excitements of the opera, the theatre, or the ball room; the transitions from high to low temperature; the exposure to night air, especially with insufficient clothing, such as exacting customs and fashion demand, are all incompatible with the duties of maternity, especially during pregnancy and lactation."

The whole of the suggestions presented by Dr. R. for reducing the amount of mortality during infancy in the principal cities of the Union are to be approved, could they all be carried into effect. To regulate marriage by legal enactments, so as to prevent it being contracted between individuals who from actual disease or hereditary taint, or any other cause, should be liable to produce offspring with a strong inherited proclivity to disease, would be impossible, excepting under a government more despotic than any which now exists. All that can be done is to enlighten public opinion on this as on all the other subjects of personal hygiene. In relation to foundling hospitals, if reference be had to the statistics of the large institutions of this kind in Europe, some might not be inclined to rank them among the means best adapted for the preservation of infant life; still there can be no just reasons for denying the possibility of a reform being introduced into all that relates to the location, construction, and management of these hospitals, adequate to remove the objectionable features appertaining to nearly all those which exist on the continent of Europe. This, we suspect, can be more readily done than the prejudice existing against orphan asylums in the American mind can be overcome.

The next report is on the *Medico-Legal Duties of Coroners*, by Dr. Semmes, of Washington, D. C.

In the correct and faithful performance of the duties which are confided by law to coroners' juries, every citizen, whatever may be his position in the community, has a deep concern, if not for the security of his own life, freedom, and character, at least for the vindication of the majesty of the laws, and the defence of the most important interests of the community generally. This must be apparent from a consideration of the purposes for which coroners' juries were established as one of the juridical institutions of our country. These purposes are, 1st, to inquire into the cause of death in every case in which the extinction of life is shrouded in mystery, or has taken place suddenly and without being preceded by any known or apparent ailment or disease; and 2dly, to investigate the circumstances connected with every case of death from violence, in order to determine whether they were the result of a premeditated criminal act; of unjustifiable neglect; of mere accident, or have occurred in defence of person or of property: and in those instances in which the death is found to be the result of any criminal act or omission, to discover through whose agency, and by what means it has been produced.

To rightfully fulfil these all-important inquests, and conduct them to a correct and reliable verdict, in which the ends of justice shall be accomplished by the conviction of the guilty and the acquittal of the innocent, demands on the part of those by whom they are conducted, not merely an amount of logical acumen, and habits of close observation that are to be acquired only by a clear head, close study, and much practice, but, likewise, an amount and variety of scientific knowledge and skill which cannot be possessed save by those whose education has been especially directed to the subject of

medico-legal investigations. Yet the law, or at least the manner in which we find the law administered in this country, actually intrusts these inquests, upon the faithful performance of which may hang the life or death, the freedom or imprisonment, the happiness or misery of a fellow creature—innocent perchance of all crime—to an ignorant coroner—selected in the majority of cases solely on account of his fealty to party, and to, in all probability, still more ignorant jurors picked up accidentally on the corners of the streets, or called forth from taverns and oyster cellars, with but confused notions as to their duties and responsibilities, and an entire deficiency in the qualifications essential for their correct and faithful fulfilment.

The practical working of this most absurd system, by which the preliminary inquiries that are essential, in every case of homicide and murder, to the attainment of a just verdict, are intrusted to the least expert members of the community, is to render the inquest of the coroner a thing of no value. Instead of throwing light upon the nature of the crime committed, and the manner of its perpetration, and thus serving as a useful directory for the subsequent proceedings in the case, the inquest of the coroner is in a great measure ignored by the courts, and exerts, if any, only a prejudicial influence upon the mind of the jury; the result of the inquest being seldom based upon the correct medico-legal aspect of the case to which it refers, but too generally a hasty opinion from a one-sided representation of facts, or a mere reflection of popular opinion or of that exaggeration and falsification almost invariable concomitants of the excitement which is produced by the actual or supposed commission of a horrible crime. Even, however, when free from these objections, the verdict returned by the coroner is often so vague and nugatory as to leave the question of the cause of death it was his duty and that of his jury diligently to inquire into, as much of a problem as though no inquest had been made. We have collected from the public papers, some thirty instances, in Philadelphia alone, where the finding of the coroner's inquest was, "Died from some cause unknown," and this too in cases in which a properly conducted investigation, by a competent tribunal, could not have failed to reveal the nature and cause of death, or to determine, at least, the important question, whether the extinguishment of life was the result of disease or of violence.

When properly filled, and its duties correctly and faithfully executed, the office of coroner is too important a one to be readily dispensed with. In view, however, of the gross carelessness and direct abuses with which it stands rightfully accused, and the evils thence resulting, it is high time that public attention should be directed to the necessity of such a reform in respect to it as shall secure the necessary qualifications in the coroner himself, and of his jurors, and such an administration of their respective functions, as shall render them what they were intended to be, "the terror of the guilty and the safeguard of the innocent." We are glad that the subject has been brought before the medical profession in the direct and lucid manner in which it is discussed in the report of Dr. Semmes. Physicians, all of whom, from the nature of their studies, their almost daily experience, and clinical observations, are necessarily rendered, to a very great extent, familiar with the principles and practice of medical jurisprudence, can readily appreciate the existing evils in the administration of the coroner's duties, and the nature of the reforms demanded for the removal of these evils, and the preventing of their occurrence in the future.

The very able report of Dr. Semmes will be read with deep interest by

every person of intelligence, whether in or out of the profession. We regret that means have not been taken to give it a more general circulation than it can attain in the pages of these *Transactions*, with a view to bringing at an early date, and in a proper form, the entire subject embraced in it to the notice of our State legislatures, that they may give to the reforms necessary the sanction of law.

The reforms suggested in the report before us are thus described:—

"The first measure, it is evident, will be to provide by law for the proper qualifications of the officer upon whom the medico-legal duties now intrusted to the coroner's office are conferred, for their correct and faithful performance.

"In all the cases in which an inquest is required to be held by the coroner, three questions present themselves: 1. What was the cause of death? 2. Was it the result of criminal agency? And, should this second question be answered in the affirmative, 3. By whom was the criminal act perpetrated.

"The solution of the first of these questions should, in our opinion, be submitted to a special commission composed entirely of experts, and the proper investigation of the others left to the jury; and whatever may occur in the course of the inquiry instituted by the special experts, in the least calculated to throw light upon the second or third questions, can be readily communicated to the jurors, for their instruction.

"Your Committee would suggest that the office of coroner, as now established by law, be reorganized entirely upon a new basis; and that the person appointed to the office should be in all cases a competent and respectable doctor in medicine, to be selected by the judges of the criminal courts, and that, while the tenure of his office should be during good behaviour, the incumbent to be liable to impeachment before the court for misdemeanors and derelictions of official duty."

Upon receiving notice of any case of death in which an inquest into the cause by which life was extinguished is demanded—

"The coroner shall call to his aid two other doctors in medicine, and, in conjunction with them, shall proceed forthwith to make the required inquiry in the fullest and most thorough manner; power being conferred on him to take charge of the dead body, to summon and attach witnesses, and to take whatever steps he may deem necessary for the lawful and constitutional performance of his duties. The entire proceeding of the medico-legal examination shall, at the discretion of the coroner, be strictly private; and in case of the refusal of any parties to comply with his injunction against publication, he should be clothed with the power of holding and punishing the contumacious offenders, as having committed a judicial contempt.

"The examination of each case being completed, a full and detailed statement of it shall be drawn up, with the conclusions arrived at in regard to the cause of death clearly set forth; which statement, signed and sworn to by the medical experts by whom the examination was conducted, shall be delivered to the ordinary jury of twelve 'good and lawful men,' for their instruction. After the examination of other material evidence, and when the jury shall have returned their verdict, with the statement indorsed and sealed by the coroner, it shall by him be filed in the office of the prosecuting attorney for the district or county."

"It may be necessary, in the large cities and populous counties, to appoint two or more coroners; different districts with concurrent jurisdiction, being assigned to each."

We have next a short report on the use of cinchona in malarious diseases, by Dr. E. Hinkle. The object of the report is to direct attention to the value of the pure alkaloid and sulphate of cinchonia, as anti-periodic agents. Dr. Hinkle states that he can fully recommend the use of the pure alkaloid cinchonia in all periodical diseases, neuralgic affections, and debility following

acute diseases; it proving in his experience, quite as efficacious as quinia, and in many cases, more prompt.

To this report succeeds one on the blending and conversion of types in fever, by Dr. C. G. Pease, of Janesville, Wisconsin.

We have been most favourably impressed by this report. Whether it be in consequence of the intrinsic truth and value of all the views set forth in it, or the affinity of these with certain pathological views, for many years held and taught by us, matters not; there are few who shall give to the report a careful and candid examination, but will admit that the author has cleared the questions discussed by him of much of the confusion and mysticism in which they have been heretofore enveloped.

The dispute in respect to the blending and conversion of types in fever has arisen pretty much, we suspect, out of the different meanings given by pathologists to the term type. By some it is used to indicate a positive, radical, and specific difference in the character and nature of disease, by others only a modification of the general character of a particular disease, resulting from either a difference in the intensity of the causes by which it is produced, or in the condition of the patient, either as respects the receptivity of his system for morbid impressions, or its recuperative energies under the disturbing influence of the morbid agent to which it has been subjected.

Admit the first of these propositions, and it must be evident that the only way in which anything approaching to a blending of types in disease could possibly occur, would be by the patient being affected, at one and the same time, by two distinct diseases. By turning to the second proposition, it will be perceived how readily a modification in certain of the phenomena of any case of disease will give origin to a condition of things in which, apparently, different and distinct types—types that usually occur separately—are blended together.

If the first proposition be true, although it may be that, when two diseases occur simultaneously in the same patient, the stronger shall overpower and expel the weaker, yet no conversion of disease can, strictly speaking, take place; whereas, according to the second proposition, the type of a disease may become readily converted into one altogether different, without any change, in a strict pathological sense, of the actual nature of the disease, or without the necessity of supposing the change to be effected by the patient having been subjected to any new or different morbid cause.

In the report before us, Dr. Pease refers the phenomena which characterize all the different forms of fever to the character of the producing agent, its degree of force, the peculiar mode of its action, and the channel through which its effect is wrought. As two or more causes may be operative at the same time, the concurring phenomena will blend in proportion as these causes are relevant, or the condition of the system which each is calculated to produce is identical. When, on the other hand, opposite or irrelevant causes are operative at the same time, the increasing potency of the one may completely obliterate the effects of the other, which were at first, perhaps, the most apparent, and thus a complete conversion of phenomena take place.

That diseases, widely differing in their character, may result from the same causes, is unquestionable. The causes of fever, though sometimes specific, are most commonly of a general or incidental character; as

“cold, heat, moisture, and aridity, acting by every possible combination in every possible abnormal degree upon the system—great atmospheric vicissitudes, want of fresh and wholesome food, fatigue and surfeit, noxious gases arising from the

decomposition of vegetable and animal matter—human effluvia arising from crowded and unventilated rooms, and from persons already diseased, some undefined electrical state, and in epidemics some general atmospheric influence."

Now, from the most rigid scrutiny of the foregoing causes, it were impossible to determine what will be the form of disease produced by their action, or what the phenomena it will present.

"Miasm and malaria," remarks Dr. Pease, "are very convenient terms, and proper enough, if we allow them to stand as the algebraic x and y , for anything which future investigation shall prove to be an exciting cause of fever."

"That fevers do arise from the operation of these general causes, is certain; but that the state which we call fever is any more likely to result from them than any other distinct forms of disease, remains to be proved. We must look, therefore, to the potency of the cause, and the channel through which its effects are wrought—that is, the part of the system primarily affected—for an explanation of the phenomena which distinguish the various forms of the disease."

After alluding to the strong probability there exists for supposing that, in certain forms of fever the blood is the channel through which the disease is produced, whilst in others the primary changes are wrought in the nervous system, Dr. P. remarks, that the fact of the latter becoming implicated sooner or later in all forms of fever, will be denied by no one.

"That the nervous symptoms vastly preponderate in the early stages of some forms, while they appear later and apparently secondary in other forms, will, I think, accord with the experience and observation of most practitioners."

According to Dr. P., therefore, in some forms of fever the primary impression of the morbid cause is on the nervous system, and its effects upon the blood are produced secondarily; while in other forms, again, the impression of the fever-producing agent is primarily on the blood, and secondarily upon the nervous system.

"It is impossible," says Dr. P., "to isolate any form of disease altogether. Especially is this true of fever. The change wrought by the fever-making agent is a change ultimately upon the whole system. In consequence of the impure and imperfect condition of the blood, the solids suffer. The condition of one organ is the condition of all the organs so far as the fever is concerned. Fever has consequently no anatomical character—it is a state."

Denying that each of the types of fever is based upon a specific difference in the character and cause of the disease, Dr. P. proceeds to show that various forms of nervous fever are the frequent result of simple exposure to great atmospherical vicissitudes, the agency of any miasmatic influence being in these cases out of the question; and, further, that it is no uncommon occurrence for a fever to commence as a pure intermittent or remittent, to pass steadily on from one degree of severity to another, until it assumes a genuine typhoid type. He concludes, therefore, that from the action of the causative agents of fever is produced a certain undefinable condition of the system which may be called the febrile diathesis.

"This diathesis," he remarks, "differs from the physiological state from the least possible departure from the standard of health to a degree incompatible with life. The phenomena which determine the type of the fever, determine, also, more or less perfectly, the channel through which the effect is wrought, and measure the degree of departure of the febrile state from the healthy standard. The phenomena in a case of intermittent and in a typhoid fever have scarcely the slightest resemblance when first fully developed. But when

this intermittent has passed on from one degree of severity to another, the blood becomes involved, the phenomena become more and more alike as the state of the system in the two cases becomes more and more identical, until it becomes difficult, if not impossible, to distinguish between them. On the other hand, the typhoid fever, when, through the poison of the blood, the nervous system becomes involved, presents, more or less, the phenomena of the remittent. This is particularly true in cases of recovery, the remissions frequently becoming quite perfect. Moreover, the complications which occur in the two forms agree in kind, as the state of the system in the two cases becomes identical. The congestions or inflammations which are so common and appear so early in the nervous fevers, do not appear in the other fevers till the nervous system becomes involved, and then the same organs are the points of attack.

"What the particular change wrought by any deleterious agent upon the system is, and the precise manner in which the change is effected, is not, perhaps never will be, known. That the effect of all agents, whether general or specific, is essentially the same, is altogether probable.

"Diseases do not blend, forms of the same disease do. We say then of fever, whatever may be its form, or with whatever other disease it may at any time be associated, it is simply fever. It is not a neurosis, it is not a phlegmasia, and however similar or closely allied the febrile diathesis may be to any other diathesis, it has its own unmistakable characteristic."

Dr. P. denies the impossibility of two diseases, whether relevant or not, affecting the system at the same time, and the supposition that, by a sort of antagonism, they destroy each other. "So common," he remarks, "is the reverse true, that a purely simple form of disease seems the exception rather than the rule.

"As regards fevers when prevalent in a particular locality, the utmost confusion of types and grades is often witnessed. Some are intermittent, others remittent, others from the potency of the cause present the continued form. The intermittent becomes malignant, congestive, remittent, continued, typhoid. What appears sporadic to-day, is to-morrow epidemic. A similar interfusion of types obtains in the second form—continued fever—as under the first. The simple pyrexia, if long continued, seldom retains its simple character, and as the severity of the affection increases, the simple fever becomes a typhoid, or perhaps a typhus."

There is, Dr. P. admits, a marked and essential difference between the types of continued fever, resulting from a difference in the state of the system and intensity of the cause, but not in the nature of the latter or of the disease. "It frequently happens," he remarks, "that of a large number of persons subject to the same influence, a part will suffer from typhoid, and a part from typhus." This we have witnessed in repeated instances, and Power, as quoted by Bartlett, states that, "on the Rio Grande, a vessel which imported seventy cases of typhus had also many cases of typhoid." The origin of the two forms may frequently be traced to the same locality. They both appear epidemically. "The typhoid," says Dr. Christison, "has repeatedly appeared and disappeared, as a subordinate or intercurrent epidemic on the more general epidemic of typhus."

A similar interchange or blending of types is also of occasional occurrence among the different eruptive fevers. Thus, scarlatina may occur attended with catarrhal, and measles with anginous symptoms. Scarlatina may appear during the convalescence from measles. The two diseases may appear in some of the members of a family in their distinct forms, in others, so blended and confounded together in the same patient, as to render it impossible to say that either predominates. In other cases the attack may commence as scarlatina and terminate as measles, or the diseases may alternate with

each other in the same patient, on different days. Nor is this blending of types confined to fevers of the same class; the phenomena of any two classes may appear in the same case. The periodic or the eruptive may assume the continued, and the continued the intermittent or remittent form, etc.

"I do not by any means assert," says Dr. P., "that the state of the system is the same in all forms of fever. The state of the system differs widely in its departure from the standard of health when a single organ is diseased, from what it is when this diseased action engages every organ in the body; but it is a difference in degree not in kind. So, when those causes which act primarily upon the nervous centres, produce a periodic fever, the state of the system is far different from what it is when, as a result of this disturbed action, the blood becomes involved; and in the incipency of this change, again, from what it is when the blood becomes so altered by disease as to give rise to the maculae of typhus or the black vomit. But these are differences in degree only. On this ground, *conversion* of type is not only possible, but capable of explanation." "In the periodic fevers, as the blood becomes involved, the peculiar nervous symptoms disappear, and the symptoms peculiar to blood fevers become manifest. The depraved blood now becomes itself a cause sufficient to complete the process of innervation.

"Nor does this supposition, that types *may* depend upon changes wrought in the system as the direct result of the disease, conflict at all with the idea that special causes are productive of particular forms of fever, as typhus from the decayed wood of ships, or the accumulation of filth on board, or decayed fruit. It is quite as easy to comprehend how the effluvia from these various sources may depress the vital powers to a given degree by destroying the integrity of the blood, as that the same identical poison should be generated from them. Indeed the search after specific causes for results which may be rendered so infinitely various through the agency of the vital forces has, so far, served to create difficulties rather than remove them. I cannot see the propriety, much less the necessity of asserting, when a case, beginning as a bilious remittent, 'puts on all the appearances of maculated typhus,' that there has been superadded to the cause of the remittent the *peculiar poison* of typhus. That the milder forms of fever are predisposing causes of the more severe, is generally admitted. The same agents which produce the milder attacks, acting in conjunction with the fever, become increasingly potent depressing agents as the power of resistance in the vital forces diminishes, and may of themselves occasion a change of type. A new deleterious agent may in the same manner, in addition to its own special influence, give potency to previously existing causes, and so hasten the transition from one type to another. I cannot admit, therefore, until it can be satisfactorily proved, that a peculiar form of fever can arise only as the result of a special poison—the conversion of type is occasioned alone by one poison overpowering or supplanting another."

The next report is on a new principle of diagnosis in dislocations of the shoulder-joint, by Dr. L. A. Dugas, of Georgia.

We invite a careful perusal of this interesting paper, on the part of those engaged in the practice of surgery.

The new principle of diagnosis set forth by Dr. Dugas is thus shortly defined by him in the outset of the report:—

"If the fingers of the injured limb can be placed by the patient or by the surgeon upon the sound shoulder, while the elbow touches the thorax, *there can be no dislocation*; and if this cannot be done, there *must* be a dislocation. In other words, it is *physically impossible* to bring the elbow in contact with the sternum or front of the thorax if there be a dislocation; and the inability to do this is *proof positive* of the existence of dislocation, inasmuch as no other injury of the shoulder-joint can induce this inability."

To this report succeeds one by Dr. Hamilton on deformities after fractures. It is the third report on that subject the gentleman has presented to the

Association. The same valuable characteristics distinguish it as did the two preceding ones. It presents a mass of materials adapted for the solution of a most important problem ; to determine, namely, the degree of success to be reasonably anticipated in any given case of fracture, from the careful and skilful application of the most approved methods of treatment now in use, and the causes inherent in the circumstances of the case or of an accidental character, by which a perfect cure is impeded, or our best efforts to produce this desirable result are rendered necessarily or probably a failure. While the knowledge that certain fractures, let the surgeon do his best, will, in numerous instances, entail more or less permanent deformity or inconvenience upon the patients in whom they occur, and that in other cases the same result may be brought about by various contingencies over which the surgeon has not entire, if any, control, does not stand as an impediment in the way of any well directed effort at improvement in the management of these accidents, with the view to render their cure in all instances more certain, and, in a larger number of cases than is at present attainable, complete and perfect ; it enables the surgeon to arrive in cases of fracture at a clear, but at the same time cautious prognosis as to their final result, and this presented to our courts with the facts, if necessary, upon which that prognosis is based, will do away with the grievous wrong that has been too often inflicted upon skilful and faithful practitioners of surgery by the verdict of juries in suits for damages on the plea of injury sustained from malpractice.

The report of Dr. Hamilton does not admit of analysis, and we hesitate to offer any remarks on either of the surgical questions embraced in it.

The remaining reports, with the two prize essays contained in the volume before us—the report, namely, *On the Nervous System in Febrile Diseases*, by Dr. H. F. Campbell; the prize essay by the same gentleman, *On the Excito-secretory System of Nerves*; and the prize essay of Dr. W. A. Hammond, *On the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum*, have been already noticed in a previous number of this Journal.

D. F. C.

ART. XVIII.—*Outlines of a Course of Lectures on the Principles and Practice of Surgery, delivered by E. GEDDINGS, M. D., Professor of Surgery in the Medical College of the State of South Carolina. Prepared by THOS. S. WARING, M. D., and SAMUEL LOGAN, M. D., from notes taken during the course. Published with the consent of, and revised by, Professor Geddings. Charleston: Courtenay & Co., 1858, pp. 560.*

THE recent journals have announced the retirement of Professor Geddings from the chair of Surgery, which he has so long and so honorably filled in the Medical College of the State of South Carolina. Whilst, therefore, we regret the withdrawal of so distinguished a teacher from the high post which he has occupied, we are the more disposed to receive with eager welcome the volume now presented us: the outlines of the course of lectures which Professor Geddings has been in the habit of delivering before his class.

The notes from which this volume has been compiled were taken by Drs. Logan and Waring, during their course of attendance upon the lectures. At the same time, the matter therein contained has been submitted to the inspection of Dr. Geddings, and we are assured by him in his preface :—